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Comparing Postgraduate Medical Education at University and Non-university Hospitals in Japan

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Abstract—In 1988 the authors surveyed all the teaching hospitals in Japan to evaluate the present status of postgraduate medical education (PGME); they received responses from 67 (84%) of the university and 172 (89%) of the non-university teaching hospitals. It was found that a large proportion of residents had spent two years in a residency without having had a single experience of some of the basic clinical skills. Consequently the residents' confidence in their abilities to perform these skills was low. The residents at the university hospitals, in particular, had had fewer experiences and were less confident about their clinical skills than were the residents at the non-university hospitals.

The lack of standard and minimum requirements for PGME in Japan may be the cause of the poor level of acquisition of clinical skills of residents during PGME. Other possible causes are the tendency in Japanese medical society to attach greater importance to academic attainment than to clinical competence and the excessive gravitation of residents toward university hospitals. The authors suggest their results show the necessity to improve the training in basic clinical skills in PGME in Japan, especially in university hospitals. *Acad. Med.* 67(1992):54-58.

The current Japanese postgraduate medical education (PGME) system was established in 1968 under the revised Medical Practitioners Law. Although not obligated to do so, medical graduates are recommended to spend two years in postgraduate clinical training at teaching hospitals. These hospitals are classified into two groups, university hospitals and non-university hospitals. The latter are

those authorized by the Ministry of Health and Welfare as postgraduate clinical teaching hospitals. Under the current system, more than 80% of all medical graduates enter a clinical training course,¹ thus making PGME an essential part of the system of medical education. Therefore, PGME has a tremendous influence on the national supply of physicians through influencing the current and future clinical skills of individual residents. However, no nationwide survey of PGME has been carried out since the current system was established.

In our previous studies, which surveyed a small number of hospitals, we found remarkable differences between university hospitals and non-university hospitals in terms of patients' lengths of stay,² medical costs for the same clinical problems,³ and the ways residents spent their time on a weekly basis.⁴ We also found that the hospitals lacked methods to evaluate the achievements of individual residents as well as the PGME system as a whole.⁵ We believe this lack of evaluation methods is the main problem of PGME in Japan, necessitating further analysis in this regard.

Based on our preliminary findings, in 1988 we conducted a large-scale survey of all the teaching hospitals.

The purposes of the survey were to obtain basic information about the present status of PGME and to find ways to improve the system. The survey was specifically designed to examine the differences between university hospitals and non-university hospitals that had been found in our preliminary studies.

Method

A set of questionnaires was sent to each of the postgraduate teaching hospitals (80 university hospitals and 193 non-university hospitals) in February 1988. Among the postgraduate teaching hospitals, the branch hospitals of medical schools and psychiatric hospitals were excluded in order to maintain generalizability of the study.

Questionnaire

The questionnaire was designed to analyze the structure, process, and outcome of PGME and consisted of the following three parts: (1) hospital statistics pertaining to number of beds, death discharge rate, medical personnel, etc.; (2) structure and process of PGME concerning goal and curriculum, clinical conferences,

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commitment of residents in clinical practice, system of evaluation of residents, moonlighting, etc.; and (3) outcome of PGME regarding the residents' experiences and achievements of 13 items of basic clinical skills.

The first two parts were answered by the senior physicians in charge of PGME at each hospital and the last part by one-fifth of the second-year residents (every fifth resident or the list) at each hospital. Extracting from the items of our previously reported studies on the experiences and achievements of residents,⁶⁻⁸ we used the residents' self-assessments regarding 13 clinical skills to evaluate the outcome of PGME. The numbers of experiences during the nearly two years of residency and the extents of the confidence of the residents for the 13 skills were self-reported; the residents rated their confidence pertaining to their performances of each skill on a scale of 1 to 4, with 1 designating no confidence and 4, complete confidence.

Analysis

The responses to the questionnaire were analyzed to compare PGME at university hospitals and non-university hospitals. Proportions were calculated for nominal scale and medians for numerical scale. Statistical analyses were performed using the chi-square test for categorical variables and Wilcoxon's rank-sum test for numerical variables. The numbers of experiences and the residents' self-rating scores of achievement of clinical skills were compared between the residents at university hospitals and those at non-university hospitals. Because of the increasing interest in evaluating PGME in Japan, we analyzed separately the responses to the questions relating to the evaluation of residents.

Results

After repeated solicitation, questionnaires were recovered from 67 university hospitals (84%) and 172 non-university hospitals (89%).

Table 1
Average Values for Questionnaire Items Comparing University and Non-University Hospitals in Japan Regarding Both Hospital Statistics and Teaching Conditions, 1988*

	Average Values	
	University Hospitals (n = 67)	Non-University Hospitals (n = 172)
Hospital Statistics		
Patients		
Number of inpatients/day	674	432
Number of inpatients/physician	3.00	7.45
Length of stay	38 days	29 days
Death discharge rate	5.84%	5.96%
Autopsy rate	40.25%	28.15%
Ambulatory patients per day	1,270	973
Staff		
Number of physicians	251	65
Number of senior physicians	156	30
Number of nurses	456	284
Number of nurses/physician	1.93	4.47
Teaching Conditions		
Residents and staff		
Number of residents	198	12
Number of physicians/resident	3.36	7.40
Number of senior physicians/resident	2.39	3.55
Number of nurses/resident	5.85	32.16
Duties (residents of internal medicine)		
Emergency room night duty/year	40	40
Average number of inpatients/year	82	132
Stipend per year		
First-year residents	1,386,000 yen	2,726,000 yen
Second-year residents	1,462,000 yen	3,323,000 yen
Medical library		
Medical journals (domestic)	626	86
Medical journals (international)	677	82
Number of librarians/physician	0.05	0.02
Academic activities		
Presentation of papers/resident/year	0.56	0.63

*The authors surveyed all the teaching hospitals in Japan to evaluate the present status of postgraduate medical education (PGME) and to compare such education at university and non-university hospitals; they received responses from 67 (84%) of the university and 172 (89%) of the non-university teaching hospitals. Under the current system, medical graduates are recommended—but not obligated—to spend two years in postgraduate clinical training at teaching hospitals; more than 80% of all graduates enter a clinical training course, thus making PGME an essential part of the Japanese system of medical education. In the table, the differences between the values of university hospitals and non-university hospitals are statistically significant ($p < .001$) except those regarding "Emergency room night duty/year" and "Presentation of papers/resident/year."

Comparisons

Our results concerning the comparison of PGME at university and non-university hospitals (Tables 1 and 2)

are reported in the following four sections: hospital statistics, structure and process of PGME, evaluation of residents, and outcome of PGME.

Hospital statistics (Table 1). The

Table 2
Percentages of University and Non-University Hospitals That Responded Yes to Questionnaire Items Regarding Postgraduate Medical Education in Japan, 1988*

Questionnaire Item	% University Hospitals (n = 67)	% Non-University Hospitals (n = 172)
Status and condition		
Open selection of residents†	61.3	70.0
Social security for residents	71.4	94.3
Prohibition of moonlighting		
First year	57.4	87.0
Second year	43.6	81.2
Teaching program		
Goal and curriculum	82.8	75.2
Record of training	44.8	35.6
Evaluation of residents		
General	58.1	54.3
By supervisor	35.9	41.6
By self	4.7	19.9
Medical library		
Centralized medical record keeping	60.9	81.3
On-line information services	98.4	16.9
Duties in ambulatory care (residents of internal medicine)	19.3	67.8
Decision by residents regarding:		
Admission	1.6	21.8
Discharge	0.0	15.7
Workup plan	5.2	36.2

*The authors surveyed all the teaching hospitals in Japan to evaluate the present status of postgraduate medical education (PGME) and to compare such education at university and non-university hospitals; they received responses from 67 (84%) of the university and 172 (89%) of the non-university teaching hospitals. Under the current system, medical graduates are recommended—but not obligated—to spend two years in postgraduate clinical training at teaching hospitals; more than 80% of all graduates enter a clinical training course, thus making PGME an essential part of the Japanese system of medical education. In the table above, the differences between the values of university hospitals and non-university hospitals are statistically significant ($p < .001$) except those regarding "Open selection of residents" and the six items under "Teaching program."

†Open selection of residents versus selection restricted to graduates of certain universities.

mean length of stay of patients at university hospitals was approximately ten days longer than that at non-university hospitals. Although the mean total number of inpatients was larger for university hospitals than for non-university hospitals, the opposite was true for the mean number of inpatients per physician. Death discharge rate, which reflects severity of diseases, was higher for non-university hospitals than for university hospitals. University hospitals had more than twice as many physicians and supervisors (defined as physicians with ten or more years of clinical experience) and almost twice as

many nurses as non-university hospitals, whereas the nurse-to-physician ratio was higher for non-university hospitals.

Structure and process of PGME. The university hospitals had fewer physicians, supervisors, and nurses per resident than did the non-university hospitals (Table 1). The residents in internal medicine at the non-university hospitals took care of more patients (Table 1); the residents in all specialties at the non-university hospitals had more chances to decide whether or not to admit or discharge patients and had more chances to plan the workups of inpatients (Table

2). No significant difference was observed for the numbers of papers read by residents in academic meetings (Table 1). The residents at non-university hospitals were better paid (Table 1) and less frequently allowed to engage in moonlighting (Table 2). Between university hospitals and non-university hospitals, there were no significant differences in the proportions of hospitals that had their own teaching goals, curricula, and records of training for residents (Table 2). On the one hand, the numbers of medical librarians per physician, the numbers of medical periodicals to which the libraries subscribed (Table 1), and the proportions of hospitals equipped with on-line information systems (Table 2) were much larger for university hospitals than for non-university hospitals. On the other hand, a centralized medical-record-keeping system had more frequently been adopted at non-university hospitals (Table 2).

Evaluation of residents (Table 2). The majority of the hospitals claimed that they had a system of general evaluation of achievement by residents. The proportion of positive responses, however, was smaller for the detailed questions regarding the standard procedure of evaluation. For instance, the proportion of hospitals of both types combined that conducted systematic evaluation by supervisors was 40% and that by residents themselves was 15.7%. There was virtually no difference in the proportions of hospitals with systems of general evaluation between the university hospitals and the non-university hospitals.

Outcome of PGME. It is noteworthy that the proportions of residents who had never experienced the basic clinical skills listed in Table 3 are quite high. In general, the residents at the non-university hospitals experienced these skills more frequently. In particular, these residents had more chances to take care of patients with common diseases (such as acute gastroenteritis) and to perform basic diagnostic skills (e.g., lumbar puncture) and treatment procedures (e.g., tracheal intubation). Corresponding

Table 3

Percentages of Residents with No Experience of Performing Basic Clinical Skills and Percentages of Residents Confident of Their Skills at University and Non-University Hospitals in Japan, 1988*

Clinical Skills	% Residents with No Experience		% Residents with Confidence	
	At University Hospitals	At Non-University Hospitals	At University Hospitals	At Non-University Hospitals
Differential diagnosis of arrhythmia	2.8	2.4	29.6	31.0
Microscopic examination of urine	38.4	29.4	22.5	24.0
Care for acute gastroenteritis	14.6	8.8	18.2	29.3
Lumbar puncture	15.5	11.4	33.5	44.7
Cross-match for blood type	19.1	22.4	48.1	40.5
Arteriocentesis	2.8	1.0	82.1	90.0
Tracheal intubation	19.9	10.8	41.1	58.1
Incision of abscess	33.3	30.4	28.0	26.0
Interpretation of renal angiography	43.3	40.8	5.8	10.7
Digital examination of prostate	44.5	27.9	6.6	7.3
Operating x-ray equipment	66.7	71.9	8.6	8.3
Fundoscopy for atherosclerosis	38.5	37.7	8.6	4.8
Examination of tympanic membrane	68.0	59.0	6.1	5.9

*The authors surveyed all the teaching hospitals in Japan to evaluate the present status of postgraduate medical education (PGME) and to compare such education at university and non-university hospitals; they received responses from 67 (84%) of the university and 172 (89%) of the non-university teaching hospitals. As part of the survey one-fifth of the second-year residents at each hospital (359 residents from university and 298 from non-university hospitals) completed self-assessments pertaining to 13 clinical skills. The residents reported the number of experiences they had of each clinical skill during their nearly two years of residency and the extent of confidence they felt regarding each of the 13 skills according to the following scale: 1 = unable, 2 = capable under instruction, 3 = nearly capable without instruction, and 4 = fully capable. Only ratings of 4 were counted by the authors as constituting confidence.

to their greater degree of experiences, the residents at the non-university hospitals seemed to be more confident about their clinical skills (Table 3).

Discussion

This was the first nationwide study of PGME in Japan since the current PGME system was established in 1968. The major change made in 1968 was the abolishment of internship and the introduction of two years of residency training, which, however, is not mandatory. During undergraduate medical education, students are not allowed to experience medical practice firsthand. Once they pass the national board examination after graduation, they are fully qualified to perform any medical practice on their own without being required to have any formal training. Currently, 80% to 90% of the graduates receive clinical training within the PGME system¹ and most of the remaining graduates are believed to have some clinical experience outside the system. The problem with current

PGME is that there are neither standard nor minimum requirements.⁸ This may be the cause of the relatively poor achievement (although the variation was tremendous) of clinical skills and knowledge of residents during PGME. Consequently, many physicians were poorly trained in basic clinical skills even after two years of residency, as shown in Table 3. Most of the clinical skills listed in Table 3 are the kinds required from the very beginning of primary care practice, so the results may reflect the level of Japanese primary care.

In comparing the two types of hospitals (university and non-university), we found remarkable differences in various indices related to PGME. The residents at non-university hospitals, in particular, had more experience and were more confident about their clinical skills compared with the residents at university hospitals. Similar findings¹⁰ have been reported by Yamane and Ogasawara, who investigated residents in internal medicine in selected hospitals.

One of the major differences between the university hospitals and

the non-university hospitals was the difference in the sizes of the institutions. Generally, the university hospitals were larger in terms of the numbers of patients and staff members. When divided by the number of residents, however, these numbers became smaller. This indicates that the larger numbers of medical staff and patients at university hospitals were surpassed by the gravitation of residents toward university hospitals. This gravitation may well have been the cause of the relatively fewer chances for clinical experiences available to the residents at university hospitals.^{11,12}

In Japan, a hierarchical medical care system has not been clearly established. There is a tendency, however, for university hospitals to deal more with tertiary care, while some non-university community hospitals deal mostly with primary care. The different roles in the medical care system also determine the indices related to PGME.¹³ Because of the lack of practical experience during undergraduate medical education in Japan, the primary purpose of residency is to

provide opportunities to learn and experience the basic clinical skills and acquire the clinical knowledge needed by all clinicians.^{9,14} However, there is a tendency in Japanese medical society even during residency to attach greater importance to experiences of rare diseases, the newest medical technologies, and the latest knowledge.¹² These purposes may be attained more effectively at university hospitals than at non-university hospitals, and this is one of the causes for the gravitation of residents to university hospitals. The power of professors in university hospitals to allocate physicians to many large hospitals may be another reason. As a consequence, residents prefer to stay in university hospitals after their graduation, seeking better positions rather than clinical competence.

We had a tentative hypothesis that non-university hospitals, which provide better opportunities for the training of residents, also had more comprehensive evaluation systems. The results of the present study, however, did not support such a hypothesis. We found no difference in the proportions of hospitals with an evaluation system between the university hospitals and the non-university hospitals. This finding was confirmed by a multidimensional analysis, controlling for confounding by other variables (details of this analysis are available from the corresponding author, E.Y.). However, the limitation of our questionnaire method for the assessment of the extent of evaluation systems may have affected the result. Another possibility is that when we began our study some non-university hospitals well known both for their good PGME programs and for their evaluation systems may have seemed more representative of the non-university hospitals than they really were.

In interpreting the results of the present study, several precautions are necessary because of the unique characteristics of the Japanese PGME teaching hospitals and the limitation

of the study. First, the interdepartmental heterogeneity of the university hospitals may have greatly affected the responses from those hospitals. University hospitals have many departments, which are in most cases quite independent of each other. Although a senior physician in charge of PGME at each hospital was requested to answer the questions, the answers to some questions, may not have represented the hospital as a whole. The relatively lower response rate of the university hospitals suggests the difficulty of conducting surveys of these hospitals.

Second, there are problems related to the self-evaluation of achievement by the residents. Being a subjective judgment, self-evaluation may be influenced by personal character; some residents may have been overconfident about their skills, and some may have been so modest that they underestimated their abilities. In our previous studies,^{6,7} we found a positive correlation between residents' numbers of experiences of performing clinical skills and their confidence in their abilities. This, however, does not guarantee the validity of the present study. Because of the lack of an objective nationwide standard, the results of the self-evaluation of achievement by the residents need to be interpreted with caution.

In spite of these weaknesses, our study provides important information regarding current Japanese PGME, suggesting the necessity to improve the training in basic clinical skills in PGME.

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References

1. Division of Medical Profession, Health Policy Bureau, Ministry of Health and Welfare. *Guide Book of the Designated Hos-*

pitals for Postgraduate Medical Education '90. Tokyo, Japan: Nihon Ijishinpo-Sha, 1989, pp. 22.

2. Yamaoka, K., Kobayashi, Y., Yano, E., and Nishizaki, O. Do Educational Functions Affect on the Length of Stay in Teaching Hospitals? *Hospital Administration* (Journal of the Japanese Society on Hospital Administration) **25**(1988):257-265.
3. Fukui, T., Nishizaki, O., and Yano, E. Evaluation of Clinical Care for So-called Adult Disease. To Achieve Appropriate Care. In *Reports of the Studies Funded by the Health Foundation of Daiwa Security Corporation*, vol. 13, pp. 63-71. Tokyo, Japan: Health Foundation of Daiwa Security Corporation, 1989.
4. Niino, N., Yano, E., Yamakado, M., Maeshiro, M., and Takaku, H. Time Study on the Activity of Residents. *Jap. J. Public Health* **36**(1989):484-488.
5. Yano, E., et al. Evaluation of Postgraduate Medical Education—From the Viewpoint of Appropriate Clinical Practice. In *Reports of the Studies Funded by the Japan Medical Education Foundation* 1988, pp. 34-42. Tokyo, Japan: Japan Medical Education Foundation, 1989.
6. Fukui, T., et al. Level of Acquisition of Clinical Knowledge and Skills among Second-year Residents. *Jap. J. Public Health* **37**(1990):793-802.
7. Sugita, S., Yano, E., Kobayashi, Y., and Sonoda, K. A Study on Goals and Achievements of Postgraduate Medical Education. *Jap. J. Hygiene* **44**(1989):935-944.
8. Yano, E., Yamaoka, K., Nishizaki, O., and Segami, K. Comparative Evaluation of Three Types of Postgraduate Medical Education Programs: Ability in Basic Clinical Attendance and Primary Care. *Med. Educ. (Japan)* **19**(1988):186-196.
9. Iwasaki, S. Postgraduate Clinical Training Course. *Med. Educ. (Japan)* **19**(1988):391-393, 406-409.
10. Yamane, Y., and Ogasawara, M. Postgraduate educational program on primary care medicine. *Med. Educ. (Japan)* **11**(1980):174-181.
11. Hashimoto, N. Postgraduate Clinical Training Course in University Hospitals. *Med. Educ. (Japan)* **19**(1988):395-398.
12. Bowers, J. Z. *Medical Education in Japan: From Chinese Medicine to Western Medicine*. New York: Hoeber Medical Division Harper & Row, 1965.
13. Hashimoto, M. Health Services in Japan. In *Comparative Health Systems: Descriptive Analyses of Fourteen National Health Systems*, M. W. Raffel, ed., pp. 335-370. University Park, Pennsylvania: Pennsylvania State University Press, 1984.
14. Committee for Postgraduate Clinical Training, Japan Society for Medical Education. Objectives of the Postgraduate Basic Clinical Training. *Med. Educ. (Japan)* **12**(1981):264-270.